DOCUMENT RESUME

ED 169 407 CG 013 337

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TITLE A Model of Maternal Coping with Childbirth: Implications for Research and Methodology.
INSTITUTION National Inst. of Child Health and Human Development (NIH), Bethesda, Md.
PUB DATE 78
NOTE 13p.; Paper presented at the Annual Convention of the American Psychological Association (86th, Toronto, Ontario, Canada, August, 1978)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Behavior Patterns; *Birth; *Environmental Influences; Individual Characteristics; Interpersonal Competence; Models; *Mothers; *Psychophysiology; *Reactive Behavior; *Stress Variables

ABSTRACT

A conceptual model of the childbirth experience is developed which emphasizes: (1) maternal coping during labor and delivery; (2) postpartum evaluation of the experience; (3) stress and coping; (4) health and illness behavior; (5) interactions between individual physiological and psychological characteristics; and (6) physical and social environmental characteristics. Analyses indicate that the childbirth model encompasses general determinants of childbirth behavior, cognitive appraisal of childbirth, the woman's psychophysiological adaptability, childbirth environment stimuli, and the outcomes of childbirth competence and postpartum childbirth affect. (Author)

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ED169407

A Model of Maternal Coping with Childbirth: Implications for Research and Methodology

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Presented in a Symposium on

"Parenthood: Coping with a Critical Psychophysiological Life Event"

American Psychological Association Annual Meetings

Toronto 1978

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Parenthood has been discussed as a pivotal stage in the family life cycle--as a consequence of socialization and an antecedent to individual and family development which follow in adult life. The birth of a child is a significant event for the individuals giving birth as well as the infant being born. The focus of this paper is the childbirth experience itself--a "critical" life event with physiological, psychologica. and physical environmental components--which lends insight into individual and family coping styles and abilities across the life span.

Childbirth is a fairly typical course of physiological events, against which the effects of interpersonal and environmental variables can be measured. A model of the childbirth experience must employ multiple antecedents and consequences reflecting physiological and psychological aspects of the experience, and their impact on the coping process. Variables and relationships are suggested by research in several disciplines. Psychosomaticists incorporated the interaction of physiology and psychology into the study of disease by investigating relationships between personality characteristics and particular disorders. In such a perspective the childbirth experience is linked with a woman's personality structure (Ostrum, 1975). For example, the literature on uterine dysfunction is replete with studies examining personality characteristics as predispositions toward inefficient functioning of the uterus specifically, and the woman generally, in labor and delivery (Dershimer, 1936; Kartchner, 1950; Cramond, 1954; Watson, 1959; Zuckerman, Nurnberger, Gardiner, Vandiver, Barrett, and den Breeigen, 1963).

Recent studies in the areas of stress and coping, and health and illness behavior, most of which focus on adult stress and illness events, have attempted to elucidate the complex interrelationships of physiological, psychological and,

in a few cases, physical environmental factors, with physical and mental health. The physiological significance of psychological events is emphasized in the stress and illness literature. Rahe and Arthur (1978), for example, presented research in the area of life change and illness. They formulated a model which takes into account environmental, social psychological, and physiological characteristics of the individual. This model uses a series of optical lenses and filters to represent important steps along a pathway from a subject's exposure to recent life change events to his eventual report of an illness.

A model of coping with physical illness which encompasses individual and social environmental factors was developed by Moos and Tsu (1977). In this model, the outcome of a crisis is influenced by three sets of factors: (1) background and personal characteristics; (2) illness-related factors; and (3) features of the physical and sociocultural environment.

Kiritz and Moos (1974) previously developed a model of the effects of the social environment on physiological processes. The model is based in part on Moos' (1973) social ecological approach to the measurement of perceived social climate. What is important is an individual's perception of the environment which is mediated by personality variables, role and status relationships, and his or her behavior within the environment.

Each of these models is relevant to an understanding of childbirth in terms of ability to cope with physiological stresses of labor and delivery. In the proposed model (Figure 1.) there are two sets of dependent variables: (1) childbirth competence; and (2) postpartum childbirth affect. The set of dependent variables which compriseschildbirth competence directly reflects the labor and delivery process. Competence is defined by Lieberman (1975) in terms of the absence of breakdown. The definition of childbirth competence which

follows from Lieberman's definition is a woman's ability to control her behavior and assist in the labor and delivery of her child without showing signs of psychological distress or functional inability. A measure of the variable of psychological comfort is the observed level of behavioral control and relaxation, or alternatively, pain and tension, of the woman in labor.

The functional ability of the parturient woman has been defined by medical researchers in terms of labor length, medications administered, procedures used, and complications of labor or delivery. Thus, two perspectives are represented in the notion of childbirth competence--the behavioral and the medical.

A feedback loop is included in the model from this set of dependent variables to childbirth environment stimuli. It is proposed that a woman's behavior and physiological functioning in labor and delivery impacts on the behaviors of others in the environment, i.e., her husband or nurse. As labor is an ongoing process, a woman's childbirth competence at any given time influences the actions of others in the setting who, in turn, affect her behavior.

Both prenatal factors and the childbirth experience contribute to the second set of dependent variables in the model--a woman's postpartum evaluation of the childbirth experience, her postpartum affect. Her assessment of the experience reflects the behavior of others in the labor and delivery setting and the effectiveness of techniques and procedures used. Several aspects of the childbirth experience may contribute to postpartum affect--the course of labor, delivery itself, and how a woman feels physically and emotionally immediately postpartum.

Background and personal characteristics, pregnancy-related factors and the physical and social environment play a role as general determinants influencing coping outcome. These three categories were suggested by Moos and Tsu (1977).

Background and personal characteristics--the experience of being parented, the extent of experience in caring for children--serve as resources to a woman's ability to cope with the childbirth experience. The psychological impact of physiological changes has been suggested to influence an individual's appraisal of an illness event or injury (Moos and Tsu, 1977). Relationships have been documented between maternal attitudes during pregnancy, analgesic medication during labor and delivery, and newborn behavior (Yang, Zweig, Douthitt and Federman, 1976). Clearly pregnancy-related factors,such as a sense of physical well-being, must be salient for the woman entering childbirth.

The physical and social environment of the pregnant woman may influence the course of childbirth. Lieberman (1975) suggested the extent, range and quality of interpersonal relationships reflect how well a person is functioning, and contribute to adaptive functioning across the life span. Nuckolls (1975) considered social support a psychosocial asset which promoted an individual's ability to adapt to change; a person's response to stressful stimuli is in part a function of his or her psychosocial assets. Prenatal anxiety, for example, may influence women's expectations, behavior and evaluations of childbirth.

Cognitive appraisal or the perception of an illness or life event involves the significance an illness or event has for an individual. In the context of childbirth, appraisal of the event is a woman's expectations for labor and delivery. Childbirth is unique from most illness or injury events in that it is an experience which is anticipated for a period of time and for which plans can be made.

In this model the concept of psychophysiological adaptability encompasses both adaptive tasks and coping skills of the physiological and psychological kind. Rahe and Arthur (1978) discussed psychophysiological response and resultant

response reduction using "response management" techniques. "Cognitive strategies" include several techniques of psychological coping such as minimalization, distraction, avoidance, and selective awareness in the reduction of symptoms. Coping is used in their model as conscious response management practices, e.g., muscle relaxation or physical exercises. The conponent of psychophysiological adaptability contributes to physiological changes and behavior in labor and delivery.

There are three categories of adaptability in the childbirth model. Psychological perspective incorporates the Moos and Tsu (1977) coping skills of denying or minimizing the seriousness of a crisis and putting an experience into long-term perspective, and the general adaptive tasks related to an individual's feelings about him or herself. For example, the planning of a pregnancy implies whether the pregnancy and birth of the child is consonant with a woman's goals and image of herself. An unplanned pregnancy may require a reallocation of family resources which is not consonant with current family aims.

Preparation for childbirth involves seeking relevant information about labor and delivery and learning specific illness-related procedures in an effort to deal with the discomfort of labor and the stresses of treatment procedures and aspects of the hospital environment.

White (1971) indicated that the ability and disposition to make use of other's help on one's own terms is relevant to the notion of competence. A component of adaptability is a woman's ability to request reassurance and emotional support specifically during pregnancy and childbirth--her "support-ability."

Childbirth environment stimuli are a system of influences which impact on a woman's behavior in labor and delivery. The nature of the husband-wife relationship in childbirth, support a woman receives in labor, and hospital

"atmosphere" reflected in nursing and physician care and the degree of staff responsiveness, are aspects of the childbirth environment.

Throughout the discussion of this model and others, I have referred to "psychological" and "physiological" variables or aspects of the childbirth experience. It is not my intent to imply any dualism of "mind" and "body." Rather, in attempting to elucidate the complex network of variables related to the antecedents and consequences of any health event, it is necessary to emphasize "between-individual" and "within-individual" dimensions. By incorporating both of these into a model of coping with a physical process which naturally changes over time, it may be possible to begin to sift through interdependencies among variables. Let me suggest several levels of analysis possible using the example of childbirth.

Labor and delivery have become events with psychosocial ramifications. Nurses and physicians have begun to adress the issues involved in "supportive" nursing care vs. "control" or "normal" care (Tryon, 1966). As more husbands accompany their wives into labor, a component of shared planning and evaluation becomes important. The interactions between husband and wife in labor may have consequences for the woman's physiological response and comfort and longer range consequences for the nature and quality of their relationship.

The behavior of a husband is only one of a myriad of stimuli to which a woman responds, originating both from external sources as well as from her own feelings and physiological responses. For example, as a woman learns what is effective behavior on her part in controlling the discomfort of a contraction, she may more effectively cope with labor. The biofeedback nature of output from an electronic fetal heart monitor may provide information to the woman which enables her to anticipate a physiological response and modify her behavior

in an attempt to cope. An interesting situation which may be seen in the hospital labor room is the case of the fetal monitor which provides feedback on the duration or strength of contractions which is contrary to the woman's experience of pain. This is more often the case with external monitoring. A husband may focus on the monitor output to the exclusion of attending to his wife. He may actually suggest that she is not having a contraction at all, even though she emphatically insists that she is.

This type of experience may be magnified in the coronary care unit where computerized patient monitoring systems are used. A nurse may rely solely on the output of various monitoring devices to the exclusion of direct patient contact. A decrease in contact has implications for social support of the patient and facilitation of adaptation to the health or illness event.

A model of childbirth indicates the need for pluralistic data collection and analysis procedures. Data must be collected over time to sample both prenatal and postpartum periods. Naturalistic behavioral assessment of the experience of childbirth is essential. Multivariate analysis techniques are appropriate to this network of variables. Research in this area, i.e., the interface between social science and medical science, requires the expertise of professionals from several related disciplines.

The study of childbirth provides information on individual characteristics and differences in coping style and ability with respect to a particular psychophysiological event. This information is of value in predicting outcomes for women in the perinatal period. It also provides for the comparison of coping in childbirth with critical events throughout the life span.

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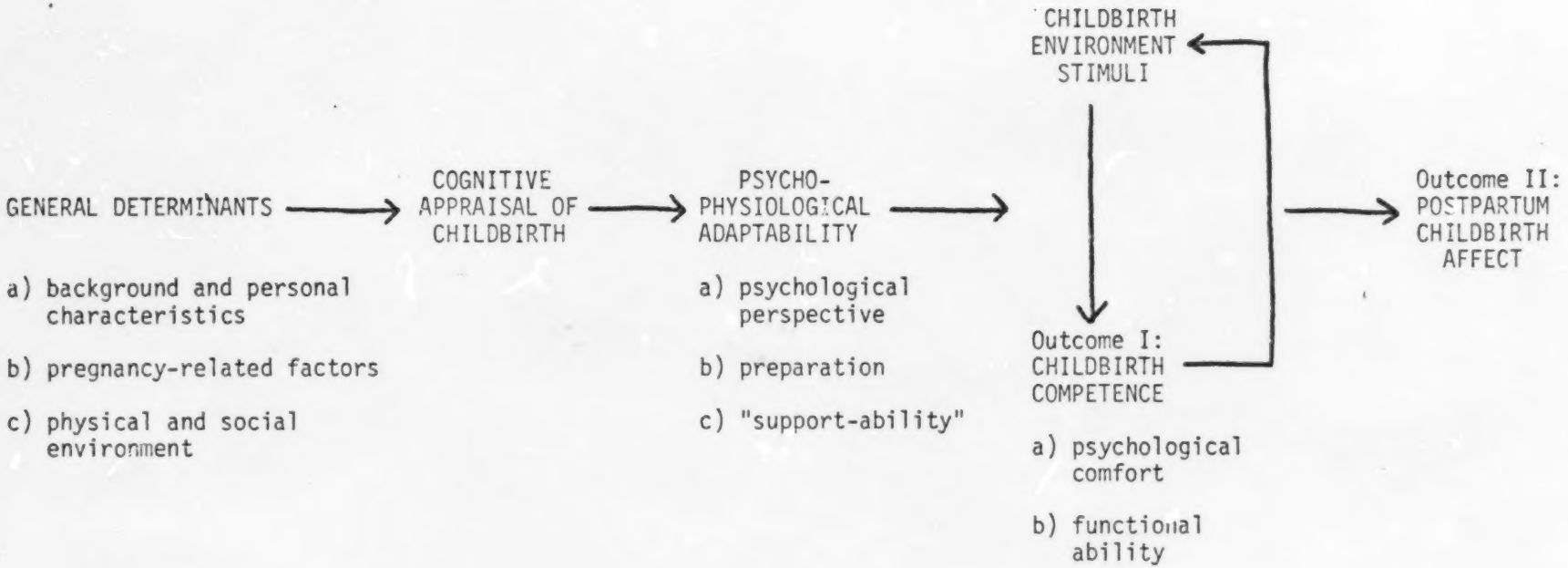

Figure 1. A MODEL OF MATERNAL COPING DURING LABOR AND DELIVERY AND EVALUATION OF THE CHILDBIRTH EXPERIENCE